Testimony of Gary Wolfram before Michigan House Energy Committee

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I. Introduction

I'd like to talk today about some of the problems with how our electric utility industry is structured and what we might do to improve the incentives of the industry and promote innovation.

It is innovation that drives economic growth and increases the wealth of the masses. I often ask my students, who you would rather be, King of England in 1263 or yourself. Anyone who appreciates indoor plumbing in Michigan in February chooses to be themselves.

In order to address these issues, just a brief comment on why the electric utility industry is different from any others, except perhaps for telecom. In most industries government intervention will usually lead to unintended consequences that result in less efficient use of resources and less innovation than if individuals are allowed to act freely and market prices determine the allocation of goods and services.

However, the utility industry developed as a regulated monopoly. There are a number of reasons for this, but as I pointed out in my paper, historically the production of electricity had what economists call economies of scale. Alternating current won the battle with direct current in the late 19th century. The importance of this is alternating current is consistent with large generating facilities. There is a high fixed cost to producing electricity from traditional power plants, but low marginal costs.

So the electric utility industry began to be seen as a natural monopoly that should be regulated and it developed this way. The generation, transmission and distribution of electricity was a vertical monopoly, that is, the same company did all three.

As you are probably aware, in the 1970s economic theory swung toward the idea of creating competition in the regulated industries. In the case of electricity, FERC gradually moved to separate transmission from generation and distribution with the Energy Policy Act of 1992, which required utilities to provide open access to their transmission lines for wholesale competitors and effectively completed this with order 888 in 1996.

The result has been that the transmission of electricity in Michigan and throughout the upper middle of the US is overseen by Midcontinent Independent System Operator, known as a Regional Transmission Organization (RTO) that ensures the interconnection and reliability of the transmission system. Another RTO, PJM Interconnection serves a portion of southwestern Michigan.

The transmission portion of DTE and Consumers Power have effectively been separated from generation and distribution, which is a positive with regard to establishing choice and competition in the electricity industry.

Unfortunately, there are a number of incentives that remain in Michigan's electricity industry that can be corrected in order to improve economic efficiency and promote innovation.

It is important to note that the regulated monopolies are not untoward or exploitive. They are just responding to the incentives of the system and if we are to improve things we need to alter these incentives.

II. Incentive Problems

Let me quickly run through some of these incentive problems.

1. Because there are significant barriers to entry, e.g., if you are not part of the 10% of customers allowed to choose another electricity supplier, there will be a general misallocation of resources. In a normal competitive industry, if there are prices much above the average cost of producing other firms will enter.

2. If you own the access point to a customer and you produce the product there is no incentive for you to allow anyone else access to your customer. The regulated monopoly has no incentive to allow a new generator of electricity to sell to their customers, so there is less incentive to try to enter the industry.

3. Nobel Prize winner George Stigler published a famous paper in 1962 about regulatory capture. His point was that the regulators often rely on information from the regulated industry, that the regulated firms have every incentive to influence regulation in their favor, and the average citizen is what is known as rationally ignorant. As a consequence the regulators tend to be influenced by those they are regulating. In particular, when setting rates there is what economists call asymmetric information. The regulated utilities have better knowledge of what the costs are for providing electricity, and since rates are determined by these costs, there is an incentive to overstate these costs.

4. Related to this, because utilities are generally regulated on cost recovery, there is a dampened incentive to provide electricity in the most efficient matter or to adopt new technologies.

5. As one of the founders of public choice theory, Gordon Tullock, pointed out famously in 1967, firms use resources to overcome the barriers that are placed in front of them and other firms will use up resources defending the barriers. These are resources that could be used to produce goods and services for the economy.

6. There is little incentive for utilities to encourage their customers to conserve electricity. How many businesses let their customers know how to buy less of their product?

7. There is little incentive to avoid peak load problems, as a facility built for a higher peak load may garner revenue in recovering the costs from a large facility.

III. Legislative Solutions

The goal of the Legislature should be altering or overcoming these incentives in order to promote efficient resource use and encourage innovation

There are a number of ways to address this, some of them more politically feasible than others. I don't intend to explain how any of these might be accomplished, my hope is to move the debate forward.

Michigan's average retail price of electricity is above that of its surrounding and competing states, in some cases by a substantial amount. So it is not really a case of "If it's Not Broke Don't Fix It."

I have updated Table 1 from my paper, which gives average retail price in cents per kilowatt hour for our surrounding area. Michigan continues to rank first at 11.41 cents. Wisconsin is second with 10.94 cents followed by Minnesota at 10.65, Ohio at 9.66, Indiana at 9.57, and Illinois at 8.98 cents per kilowatt hour.

Here are some suggestions I have to improve Michigan's electricity industry.

The first of these would be to expand retail choice. Full choice expansion has a number of difficulties that must be overcome, such as stranded costs, but there are a number of studies, one of the better ones is an MIT Department of Economics working paper referenced in my paper, that show competition in the industry lowers prices. But it should be obvious that competition sets up incentives for innovation.

Again as you are aware, Michigan has had some experience with retail competition. Legislation in 2000 allowed for unlimited retail access under Public Act 141. In 2008, retail access was strongly limited under PA 286.

For a discussion of retail price changes during the period of full electric choice and the four year period after, see Dr. Theodore Bolema's 2013 Mackinac Center Policy Analysis study, "Electric Choice Policies in Michigan." He found that prices rose substantially slower in Michigan than the Great Lakes States and the US, with rates below the national average within two years of full implementation of choice. After the 2008 legislation, rate increases were much larger in Michigan than the Great Lakes states while nationally prices were falling.

A primary problem in implementing retail choice is the issue of stranded costs. Michigan ratepayers have already compensated utilities for stranded costs as part of the 2000 legislation, but renewed expansion of retail choice would have to deal with the issue. One way to do this might be to gradually expand over some period of years the percentage of market share that Investor Owned Utilities can lose. This would allow for utilities to respond to changing market conditions.

A second suggestion is to require the companies that own both generating facilities and the distribution network to purchase energy from renewable, co-generation, and waste to energy sources at an economically efficient rate.

The reason to do this would be to provide incentives for the development of new technology. There is much less incentive to innovate if you aren't sure you will have access to a customer

base. However, if you know the utility must allow you access to customer you have an incentive to develop the solar chip that can generate the 1.12 gigawatts that Marty needed to power his Delorian in Back to the Future.

Under federal regulations, certain qualified facilities have the right to sell to a utility, either at the utilities avoided cost or at a negotiated rate.

These regulations recognized the problem of incentives of regulated utilities, however, a problem with this solution is how to determine avoided cost. There are at least two types of avoided cost, one that uses marginal cost and one that uses long term costs including generation facilities. And, there is the asymmetric information problem discussed earlier.

A third suggestion is to further structurally separate the industry, through separate ownership of generation and distribution. This expansion of the reforms started with regard to transmission would create incentives for new and existing entrepreneurs to innovate in the production of energy.

This solution would avoid the problem of determining avoided cost. Also, a distributor would be would not have an incentive to discriminate among different generators, just as transmission firms do not have an incentive to discriminate among generators or distributors.

Fourth, we could allow consumers to choose to purchase renewable energy specifically, such as you can go to the grocery store and choose organically grown vegetables even though they might be more expensive. This would both improve customer satisfaction, but provide incentives to innovate in the production of renewable energy.

Fifth, utilities could be required to start peak-load pricing that would encourage customers to spread their electricity usage. If you pay more for your electricity at 4 in the afternoon than at 9 at night, then you will have the incentive to do your laundry at a time of the day when the load is less than at peak. This would allow for smaller generating facilities and encourage innovative ways to reduce load, especially at peak times.

Let me conclude with emphasizing that the existing utilities are merely responding to the incentives of the system. The problem is the incentives are misaligned with the best resource use and dampen the innovative urge that has created such wealth in our market economy, If Michigan can develop an electric utility industry that is a leader in cost efficiency and innovation, it will benefit all Michigan citizens as well as the out-of-state customers of our manufacturing and service sectors.